Comments on BPL Deployment

The Commission is considering the deployment of so-called BPL hardware and systems. It is claimed that this approach will enable members of the population, at present unserved, with Internet access. The proposed spectrum is in the range of 2-80 MHz; HF and the lower end of VHF spectrum.

BPL deployment and use poses a great and possibly terminal RFI hazard to users of the HF spectrum on a worldwide basis. This includes groups as disparate as the US military, medical missionary groups in Latin America, small villages in Africa, and schoolchildren in rural Australia. The writer has observed these usages first hand. For these groups and many others, there is no communications alternative.

BPL deployment constitutes RF spectrum pollution on a global basis. Signals generated by the BPL equipment, particularly in the 2-45 MHz range, can easily be propagated around the globe by natural means.

Radio Amateurs are familiar with propagation of signals around the world in the 2-30 MHz with ERPs measured in milliwatts. Thus it is quite possible that BPL signals in the US could interfere, for example, with HF communications from a remote African village requesting medical assistance.

The term “Radio Amateur” is in itself something of a misnomer. While it has existed since the beginning of the Commission, many infer that “Amateurs” are just that; somehow lacking in proficiency or knowledge. To the contrary many “Amateurs” are also professional engineers and scientists with detailed knowledge of HF propagation and various causes and mechanisms of RFI. The writer prefers the term “Ham Radio Operator” or “Ham”, and will use it subsequently.

Ham Radio Operators have consistently produced breakthrough result in HF technology and related arts whether in terms of understanding of signal propagation or the use of equipment over both very long and very short signal paths.

When Hams and organizations such as the ARRL express grave concerns with respect to HF interference, it is because no other group has as much understanding of the practical and theoretical aspects of HF communication and because many Hams have extensive experience with HF communication and RFI at very low power levels.

The commenting utility companies and BPL equipment manufacturers have little if any understanding of the RFI their equipment may generate, nor understanding of its destructive and lasting consequences.

In fact BPL is essentially an untested and perhaps flawed “technology”. It makes broad claims, yet is unable to quantify its transmission medium and resulting RFI hazard. This is because the powerline infrastructure varies greatly from a signal carrying perspective.

It is difficult for the writer to understand why the Commission has taken what is essentially a developmental role, while apparently simultaneously abandoning its regulatory function. Given the global RFI pollution which will inevitably result from BPL, and given the local RFI already measured by ARRL in BPL demonstration areas, it is very difficult to understand the Commission's motivations.

BPL has been deployed in a very small number of residences in the Mid-Atlantic area. There is no real experience with a wide-area deployment, nor has there been enough time to quantify radiated signal levels, patterns and contours, as would be the case for any other substantive class of RF emitters under the jurisdiction of the Commission.

If allowed, the BPL equipment would be sold to consumers who would install it in their homes. These consumers have no means of measuring interfering signals generated by their equipment, no knowledge of the radiation patterns produced by the wiring within their homes and proximal thereto. The equipment, if sold as unlicensed under Part 15 rules can be installed in any geography without record nor control.

Thus if a BPL device or a group of BPL devices do create harmful interference in their operating spectrum, it may be essentially impossible to easily track down. If millions of this type of emitter are deployed, it might become necessary to use DF techniques to find interference causing devices.

Manufacturers of BPL associated equipment, as well as electric power utility companies, both of whom may profit greatly from a rushed BPL deployment, have commented to the Commission with respect to the desirability, utility, and benign nature of PL RF emissions.

One utility claims that BPL represents only terminal equipment and therefore does not radiate. Another commenter claims that BPL will cause no interference with existing services. No data are presented to support this contention.

The writer offers to demonstrate to the Commissioners, using calibrated equipment, that BPL causes extremely harmful RFI in areas where it is deployed.

In summary, it is hoped that the Commission will "look before it leaps" into allowing wide area BPL deployment and that very extensive testing will be performed before the unfounded claims of those with large financial interests will be taken de facto.

One would hope that past lessons of the real cost of pollution would be remembered before the global pollution of the HF spectrum would be allowed.

Sincerely, I am,

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